

CLAIMS

1. A transmitting apparatus for transmitting input voice data, comprising:

coding means for coding the voice data and for
5 outputting coded voice data;

transmitting means for transmitting the coded voice data;

parameter storage means for storing a parameter concerning the coding performed by the coding means and a
10 parameter concerning the transmission performed by the transmitting means in association with specifying information for specifying a receiving side that receives the coded voice data; and

parameter setting means for selecting and setting,
15 based on the specifying information, the parameter concerning the coding performed by the coding means and the parameter concerning the transmission performed by the transmitting means stored in the parameter storage means.

2. The transmitting apparatus according to claim 1, wherein
20 the parameter concerning the coding includes a coding method and a codebook used for the coding.

3. The transmitting apparatus according to claim 1, wherein the parameter concerning the transmission includes a modulation method and the amount of transmission data per
25 unit time.

4. The transmitting apparatus according to claim 1, wherein the parameter storage means stores, for a piece of the specifying information, a combination of a plurality of parameters concerning the coding and a plurality of parameters concerning the transmission provided with different priority levels.

5. The transmitting apparatus according to claim 1, further comprising initial value storage means for storing initial values of the parameter concerning the coding and the parameter concerning the transmission, wherein the setting means sets the initial values stored in the initial value storage means in a case the parameter concerning the coding and the parameter concerning the transmission associated with the specifying information do not exist.

6. The transmitting apparatus according to claim 5, wherein the initial value storage means stores the initial values in association with a state of the receiving side.

7. The transmitting apparatus according to claim 1, further comprising learning means for learning quality-improving data for improving the quality of voice output from the receiving side based on voice data used for past learning and newly input voice data, wherein the transmitting means transmits the quality-improving data together with the coded voice data.

8. The transmitting apparatus according to claim 7, wherein

the learning means conducts learning for determining, as the quality-improving data, a tap coefficient used for, together with decoded voice data obtained by decoding the coded voice data, performing predictive computation for determining a
5 predictive value of quality-improved voice data obtained by improving the decoded voice data.

9. A transmitting method for use in a transmitting apparatus for transmitting input voice data, comprising:

10 a coding step of coding the voice data and outputting coded voice data;

a transmission control step of controlling the transmission of the coded voice data;

15 a parameter storage control step of controlling the storage of a parameter concerning the coding performed by processing of the coding step and a parameter concerning the transmission controlled by processing of the transmission control step in association with specifying information for specifying a receiving side that receives the coded voice data; and

20 a parameter setting step of selecting and setting, based on the specifying information, the parameter concerning the coding performed by the processing of the coding step and the parameter concerning the transmission controlled by the processing of the transmission control
25 step, the storage of the parameters being controlled by

processing of the parameter storage control step.

10. A recording medium recording thereon a computer-readable program for a transmitting apparatus for transmitting input voice data, the computer-readable program

5 comprising:

a coding step of coding the voice data and outputting coded voice data;

a transmission control step of controlling the transmission of the coded voice data;

10 a parameter storage control step of controlling the storage of a parameter concerning the coding performed by processing of the coding step and a parameter concerning the transmission controlled by processing of the transmission control step in association with specifying information for
15 specifying a receiving side that receives the coded voice data; and

a parameter setting step of selecting and setting, based on the specifying information, the parameter concerning the coding performed by the processing of the
20 coding step and the parameter concerning the transmission controlled by the processing of the transmission control step, the storage of the parameters being controlled by processing of the parameter storage control step.

11. A program executable by a computer for controlling a
25 transmitting apparatus for transmitting input voice data,

comprising:

a coding step of coding the voice data and outputting coded voice data;

5 a transmission control step of controlling the transmission of the coded voice data;

a parameter storage control step of controlling the storage of a parameter concerning the coding performed by processing of the coding step and a parameter concerning the transmission controlled by processing of the transmission control step in association with specifying information for specifying a receiving side that receives the coded voice data; and

10

a parameter setting step of selecting and setting, based on the specifying information, the parameter concerning the coding performed by the processing of the coding step and the parameter concerning the transmission controlled by the processing of the transmission control step, the storage of the parameters being controlled by processing of the parameter storage control step.

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20 12. A receiving apparatus for receiving coded voice data obtained by coding voice data, comprising:

receiving means for receiving the coded voice data;

decoding means for decoding the coded voice data received by the receiving means;

25 parameter storage means for storing a parameter

concerning the reception performed by the receiving means
and a parameter concerning the decoding performed by the
decoding means in association with specifying information
for specifying a transmitting side that transmits the coded
5 voice data; and

parameter setting means for selecting and setting,
based on the specifying information, the parameter
concerning the reception performed by the receiving means
and the parameter concerning the decoding performed by the
10 decoding means stored in the parameter storage means.

13. The receiving apparatus according to claim 12, wherein
the parameter concerning the decoding includes a coding
method used for the coding performed by the transmitting
side that transmits the coded voice data and a codebook used
15 for the coding.

14. The receiving apparatus according to claim 12, wherein
the parameter concerning the reception includes a
demodulation method corresponding to a modulation method
used for transmitting the coded voice data by the
20 transmitting side.

15. The receiving apparatus according to claim 12, wherein
the parameter storage means stores, for a piece of the
specifying information, a combination of a plurality of
parameters concerning the reception and a plurality of
25 parameters concerning the decoding provided with different

priority levels.

16. The receiving apparatus according to claim 12, further comprising determining means for determining whether the parameter concerning the reception and the parameter
5 concerning the decoding stored in the parameter storage means are the latest parameters, wherein, in a case the determining means determines that the parameter concerning the reception and the parameter concerning the decoding stored in the parameter storage means are not the latest
10 parameters, the parameter storage means updates the stored parameter concerning the reception and the stored parameter concerning the decoding.

17. The receiving apparatus according to claim 12, further comprising initial value storage means for storing initial
15 values of the parameter concerning the reception and the parameter concerning the decoding, wherein the setting means sets the initial values stored in the initial value setting means in a case the parameter concerning the reception and the parameter concerning the decoding associated with the
20 specifying information do not exist.

18. The receiving apparatus according to claim 12, wherein the initial value storage means stores the initial values in association with information concerning a state of a signal received by the receiving means.

25 19. The receiving apparatus according to claim 18, wherein

the information concerning the state of the signal received by the receiving means includes the amount of noise contained in the signal, the signal intensity of the signal, and the carrier frequency of the signal.

5 20. The receiving apparatus according to claim 12, wherein the receiving means further receives quality-improving data obtained by decoding the coded voice data and by improving the quality of decoded voice data, wherein the parameter storage means further stores the quality-improving data
10 received by the receiving means in association with the specifying information.

21. The receiving apparatus according to claim 20, wherein the receiving means receives the quality-improving data while receiving the coded voice data, and the parameter
15 storage means further stores the quality-improving data received by the receiving means while the coded voice data is being received in association with the specifying information.

22. The receiving apparatus according to claim 20, wherein
20 the quality-improving data includes a tap coefficient for classification adaptive processing, a codebook, a parameter concerning a transmission mode, a parameter concerning a coding structure, a parameter concerning creation.

23. The receiving apparatus according to claim 20, wherein
25 the quality-improving data includes a tap coefficient used

for, together with the decoded voice data, performing predictive computation for determining a predictive value of quality-improved voice data.

24. A receiving method for use in a receiving apparatus for
5 receiving coded voice data obtained by coding voice data, comprising:

a reception control step of controlling the reception of the coded voice data;

a decoding step of decoding the coded voice data whose
10 reception is controlled by processing of the reception control step;

a parameter storage control step of controlling the storage of a parameter concerning the reception controlled by the processing of the reception control step and a
15 parameter concerning the decoding performed by processing of the decoding step in association with specifying information for specifying a transmitting side that transmits the coded voice data; and

a parameter setting step of selecting and setting,
20 based on the specifying information, the parameter concerning the reception controlled by the processing of the reception control step and the parameter concerning the decoding performed by the processing of the decoding step, the storage of the parameters being controlled by processing
25 of the parameter storage control step.

25. A recording medium recording thereon a computer-readable program for a receiving apparatus for receiving coded voice data obtained by coding voice data, the computer-readable program comprising:

5 a reception control step of controlling the reception of the coded voice data;

 a decoding step of decoding the coded voice data whose reception is controlled by processing of the reception control step;

10 a parameter storage control step of controlling the storage of a parameter concerning the reception controlled by the processing of the reception control step and a parameter concerning the decoding performed by processing of the decoding step in association with specifying information
15 for specifying a transmitting side that transmits the coded voice data; and

 a parameter setting step of selecting and setting, based on the specifying information, the parameter concerning the reception controlled by the processing of the
20 reception control step and the parameter concerning the decoding performed by the processing of the decoding step, the storage of the parameters being controlled by processing of the parameter storage control step.

26. A program executable by a computer for controlling a
25 receiving apparatus for receiving coded voice data obtained

by coding voice data, comprising:

a reception control step of controlling the reception of the coded voice data;

a decoding step of decoding the coded voice data whose
5 reception is controlled by processing of the reception control step;

a parameter storage control step of controlling the storage of a parameter concerning the reception controlled by the processing of the reception control step and a
10 parameter concerning the decoding performed by processing of the decoding step in association with specifying information for specifying a transmitting side that transmits the coded voice data; and

a parameter setting step of selecting and setting,
15 based on the specifying information, the parameter concerning the reception controlled by the processing of the reception control step and the parameter concerning the decoding performed by the processing of the decoding step, the storage of the parameters being controlled by processing
20 of the parameter storage control step.

27. A transceiver comprising a transmitting apparatus and a receiving apparatus,

the transmitting apparatus comprising:

coding means for coding the voice data and for
25 outputting coded voice data;

transmitting means for transmitting the coded voice data;

first parameter storage means for storing a parameter concerning the coding performed by the coding means and a parameter concerning the transmission performed by the transmitting means in association with first specifying information for specifying a receiving side that receives the coded voice data; and

first parameter setting means for selecting and setting, based on the first specifying information, the parameter concerning the coding performed by the coding means and the parameter concerning the transmission performed by the transmitting means stored in the first parameter storage means,

the receiving apparatus comprising:

receiving means for receiving the coded voice data; decoding means for decoding the coded voice data received by the receiving means;

second parameter storage means for storing a parameter concerning the reception performed by the receiving means and a parameter concerning the decoding performed by the decoding means in association with second specifying information for specifying a transmitting side that transmits the coded voice data; and

second parameter setting means for selecting and

setting, based on the second specifying information, the parameter concerning the reception performed by the receiving means and the parameter concerning the decoding performed by the decoding means stored in the second parameter storage means.

28. A communication apparatus for performing communication with a transceiver, comprising:

acquiring means for acquiring from the transceiver quality-improving data for improving the quality of decoded voice data obtained by decoding coded voice data;

storage means for storing the quality-improving data acquired by the acquiring means in association with specifying information for specifying the transceiver; and

supply means for supplying the quality-improving data stored in the storage means to the transceiver specified by the specifying information.

29. The communication apparatus according to claim 28, wherein the acquiring means further acquires a parameter concerning the coding and decoding performed by the transceiver and a parameter concerning the transmission and reception performed by the transceiver,

the storage means further stores the parameter concerning the coding and decoding and the parameter concerning the transmission and reception acquired by the acquiring means in association with the specifying

information for specifying the transceiver, and

the supply means further supplies the parameter concerning the coding and decoding and the parameter concerning the transmission and reception stored in the storage means.

30. The communication apparatus according to claim 28, wherein the storage means further stores initial values of the quality-improving data, a parameter concerning the coding and decoding, and a parameter concerning the transmission and reception in association with information concerning the transceiver, and

the supply means supplies the initial values stored in the storage means to the transceiver in a case the quality-improving data, the parameter concerning the coding and decoding, and the parameter concerning the transmission and reception associated with the specifying information do not exist.

31. A communication method for use in a communication apparatus for performing communication with a transceiver, comprising:

an acquiring control step of controlling the acquisition from the transceiver quality-improving data for improving the quality of decoded voice data obtained by decoding coded voice data;

a storage control step of controlling the storage of

the quality-improving data whose acquisition is controlled by processing of the acquiring control step in association with specifying information for specifying the transceiver; and

5 a supply control step of controlling the supplying of the quality-improving data whose storage is controlled by processing of the storage control step to the transceiver specified by the specifying information.

32. A recording medium recording thereon a computer-
10 readable program for a communication apparatus for performing communication with a transceiver, the computer-readable program comprising:

 an acquiring control step of controlling the acquisition from the transceiver quality-improving data for
15 improving the quality of decoded voice data obtained by decoding coded voice data;

 a storage control step of controlling the storage of the quality-improving data whose acquisition is controlled by processing of the acquiring control step in association
20 with specifying information for specifying the transceiver; and

 a supply control step of controlling the supplying of the quality-improving data whose storage is controlled by processing of the storage control step to the transceiver
25 specified by the specifying information.

33. A program executable by a computer for controlling a communication apparatus for performing communication with a transceiver, comprising:

an acquiring control step of controlling the
5 acquisition from the transceiver quality-improving data for improving the quality of decoded voice data obtained by decoding coded voice data;

a storage control step of controlling the storage of the quality-improving data whose acquisition is controlled
10 by processing of the acquiring control step in association with specifying information for specifying the transceiver; and

a supply control step of controlling the supplying of the quality-improving data whose storage is controlled by
15 processing of the storage control step to the transceiver specified by the specifying information.

34. A communication apparatus for performing communication with a transceiver, comprising:

acquiring means for acquiring a feature concerning the
20 transmission and reception of coded voice data from the transceiver;

calculating means for calculating quality-improving data for improving the quality of decoded voice data obtained by decoding the coded voice data based on the
25 feature acquired by the acquiring means; and

supply means for supplying the quality-improving data calculated by the calculating means to the transceiver from which the feature is acquired.

35. The communication apparatus according to claim 34,
5 further comprising storage means for storing the quality-improving data calculated by the calculating means in association with specifying information for specifying the transceiver, wherein the supply means supplies the quality-improving data stored in the storage means to the
10 transceiver from which the feature is acquired.

36. A communication method for use in a communication apparatus for performing communication with a transceiver, comprising:

an acquiring control step of controlling the
15 acquisition of a feature concerning the transmission and reception of coded voice data from the transceiver;

a calculating step of calculating quality-improving data for improving the quality of decoded voice data obtained by decoding the coded voice data based on the
20 feature whose acquisition is controlled by processing of the acquiring control step; and

a supply control step of controlling the supplying of the quality-improving data calculated by processing of the calculating step to the transceiver from which the feature
25 is acquired.

37. A recording medium recording thereon a computer-readable program for a communication apparatus for performing communication with a transceiver, the computer-readable program comprising:

5 an acquiring control step of controlling the acquisition of a feature concerning the transmission and reception of coded voice data from the transceiver;

 a calculating step of calculating quality-improving data for improving the quality of decoded voice data
10 obtained by decoding the coded voice data based on the feature whose acquisition is controlled by processing of the acquiring control step; and

 a supply control step of controlling the supplying of the quality-improving data calculated by processing of the
15 calculating step to the transceiver from which the feature is acquired.

38. A program executable by a computer for controlling a communication apparatus for performing communication with a transceiver, comprising:

20 an acquiring control step of controlling the acquisition of a feature concerning the transmission and reception of coded voice data from the transceiver;

 a calculating step of calculating quality-improving data for improving the quality of decoded voice data
25 obtained by decoding the coded voice data based on the

feature whose acquisition is controlled by processing of the
acquiring control step; and

5 a supply control step of controlling the supplying of
the quality-improving data calculated by processing of the
calculating step to the transceiver from which the feature
is acquired.